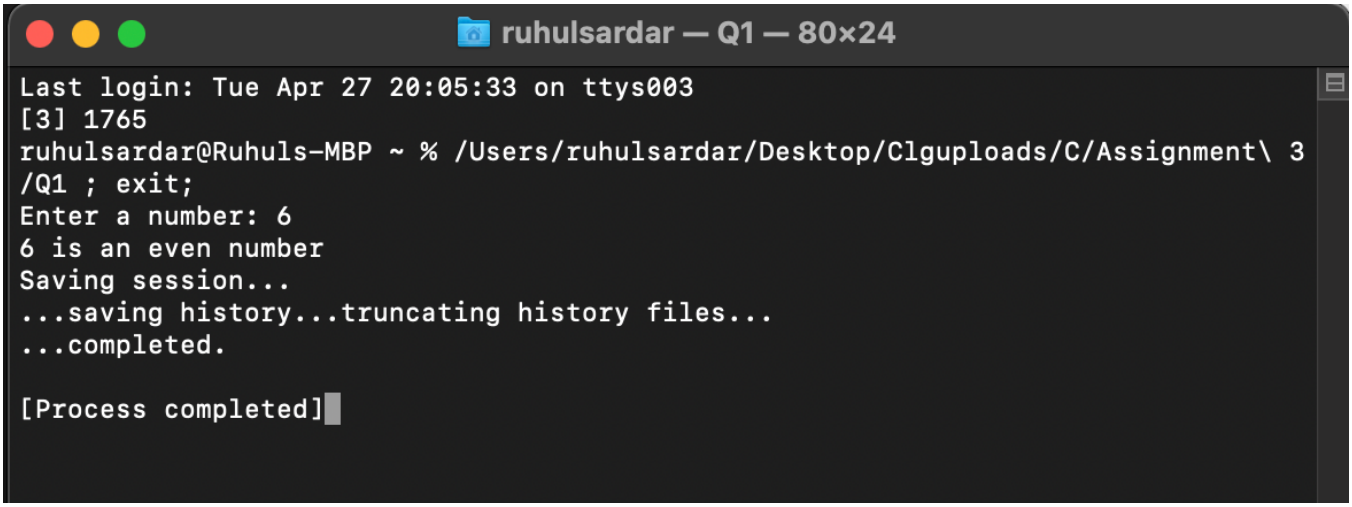
Q1. WACP to check whether a number is odd or even (using simple if statement).

```
#include <stdio.h>

int main(){
int x;
printf("Enter a number: ");
scanf("%d", &x);

if (x % 2 == 0)
printf("%d is an even number", x);
else
printf("%d is an odd number", x);

   return 0;
}
```

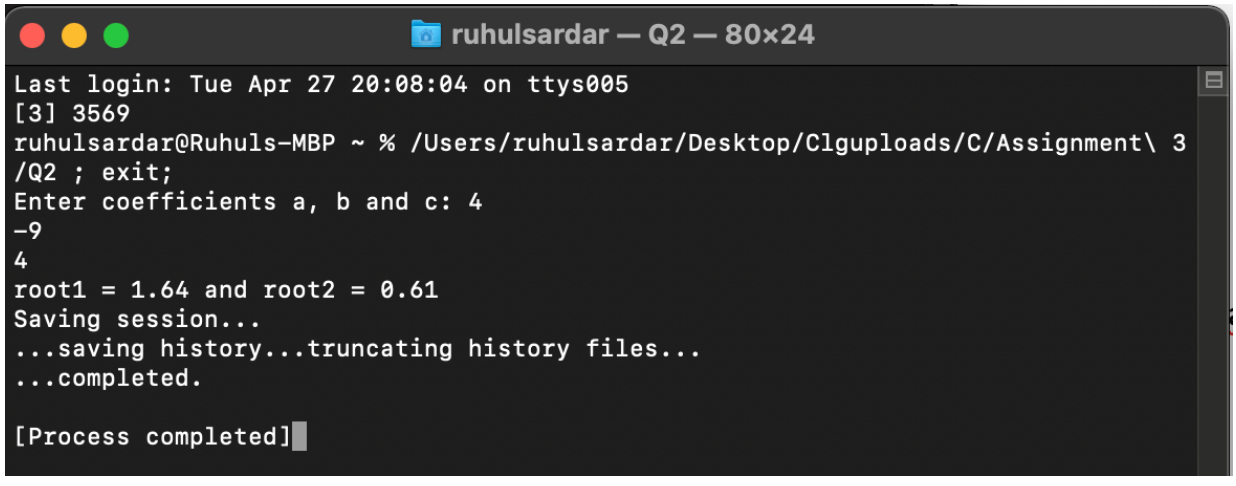
Output:



Q2. WACP to find the roots of a Quadratic equation (using if else statement)

```
#include <math.h>
#include <stdio.h>
int main() {
   double a, b, c, discriminant, root1, root2, realPart, imagPart;
   printf("Enter coefficients a, b and c: ");
   scanf("%lf %lf %lf", &a, &b, &c);

   discriminant = (b * b) – ( 4 * a * c);

   // condition for real and different roots
   if (discriminant > 0) {
      root1 = (-b + sqrt(discriminant)) / (2 * a);
      root2 = (-b - sqrt(discriminant)) / (2 * a);
      printf("root1 = %.2lf and root2 = %.2lf\n", root1, root2);
   }

   // condition for real and equal roots
   else if (discriminant == 0) {
      root1 = root2 = -b / (2 * a);
      printf("root1 = root2 = %.2lf\n", root1);
   }

   // if roots are not real
   else {
      realPart = -b / (2 * a);
      imagPart = sqrt(-discriminant) / (2 * a);
      printf("root1 = %.2lf+%.2lfi and root2 = %.2f-%.2fi\n", realPart, imagPart,
realPart, imagPart);
   }

   return 0;
}
```

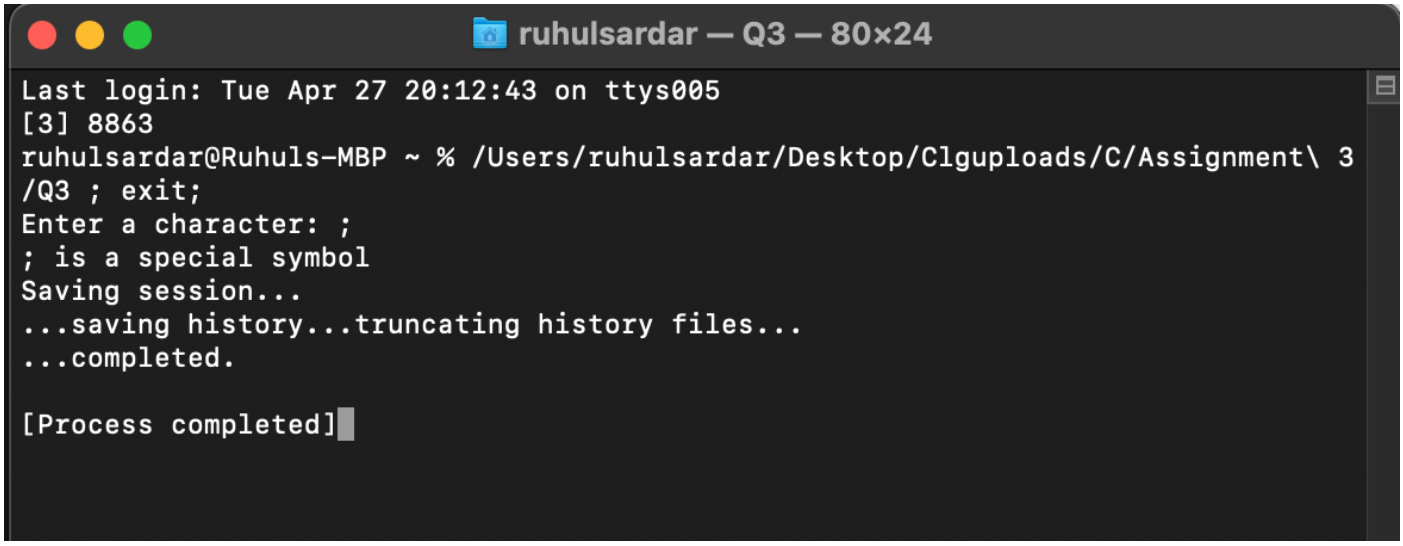
Output:



Q3. WACP to determine whether the character entered is a capital, small case letter, a digit or a special symbol (using else if ladder).

```
#include<stdio.h>

int main(){
 char ch;
 printf("Enter a character: ");
 scanf("%c", &ch);

 if (ch >= 65  && ch <=90)
 {
    printf("%c is a capital case letter\n", ch);
 }
 else if (ch >= 97 && ch <= 122)
 {
    printf("%c is a small case letter\n", ch);
 }
 else if (ch >= 48 && ch <= 57)
 {
    printf("%c is a number\n", ch);
 }
 else if((ch>=0 && ch<=47) || (ch>=58&& ch<=64) || (ch>=91 && ch<=96) || (ch>=123 &&
ch<=127))
 {
    printf("%c is a special symbol\n", ch);
 }


   return 0;
}
```

Output:

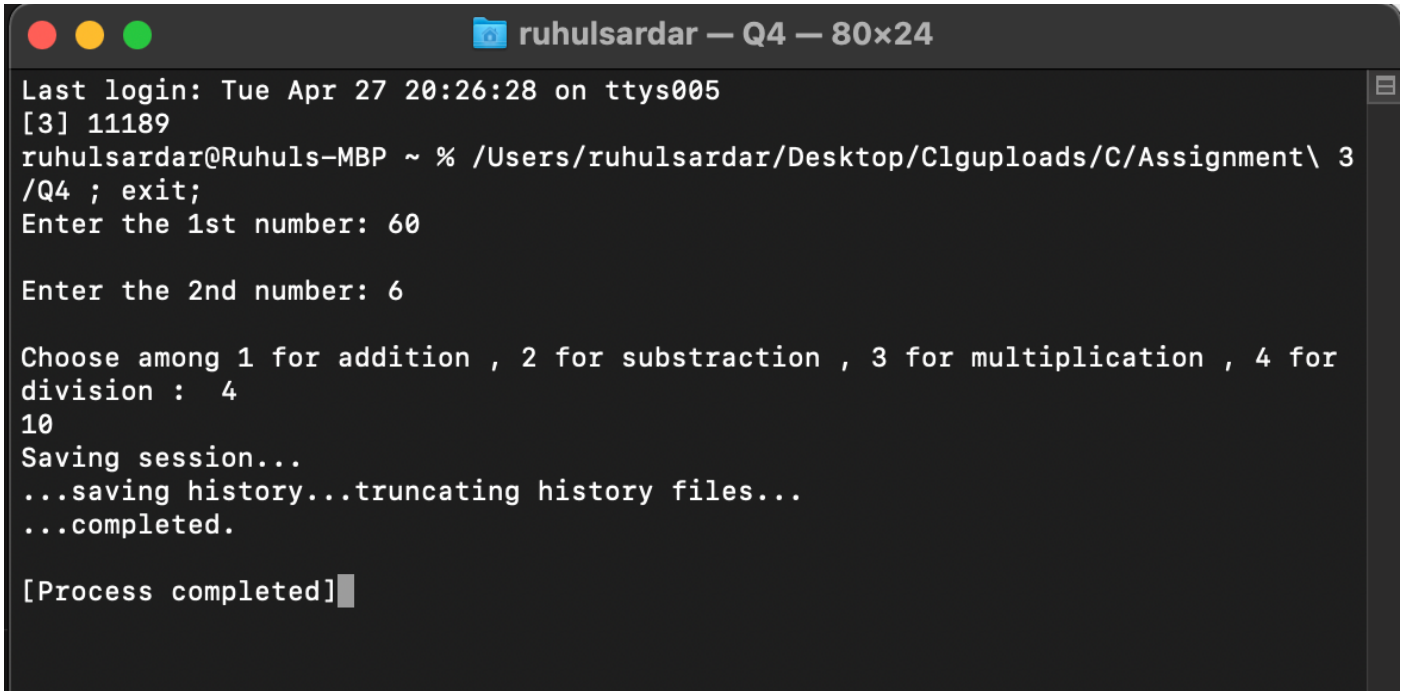


Q4. WACP to add, subtract, multiply and divide two numbers using switch case.

```
#include<stdio.h>


int main(){
 int a,b,ch;
 printf("Enter the 1st number: ");
 scanf("%d", &a);
 printf("\nEnter the 2nd number: ");
 scanf("%d", &b);
 printf("\nChoose among 1 for addition , 2 for substraction , 3 for multiplication , 4 for division :  ");
 scanf("%d", &ch);

 switch(ch)
 {
    case 1 :
    printf("%d\n", a+b);
    break;

    case 2 :
    printf("%d\n", a-b);
    break;

    case 3 :
    printf("%d\n", a*b);
    break;

    case 4 :
```

```
    printf("%d\n", a/b);
    break;


 }
  return 0;
}
```

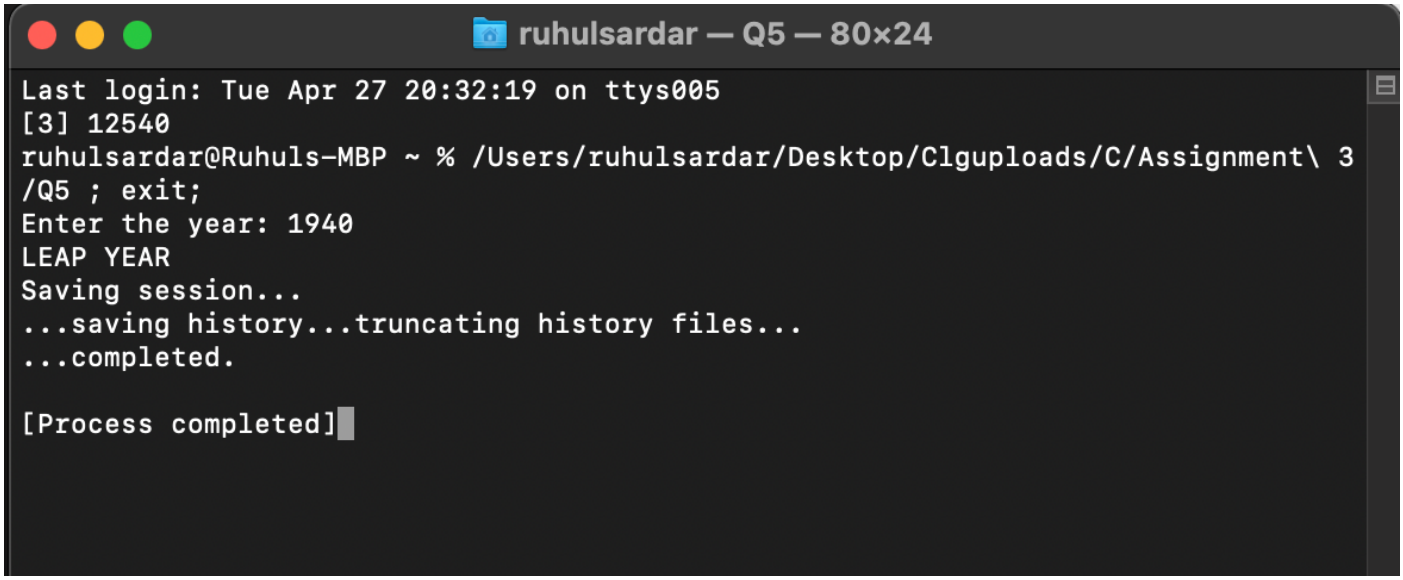
Output:



Q5. Any year is entered through keyboard. WACP to determine whether the year is a leap year or not (using conditional operators).

```
#include<stdio.h>

int main()

{

 int year;

 printf("Enter the year: ");

 scanf("%d", &year);

  (year%4==0 && year%100!=0) ? (printf("LEAP YEAR\n")) : ((year%400 ==0 ) ? (printf("LEAP YEAR\n")) : (printf("COMMON YEAR\n")));

   return 0;

}
```

Output:



Q6. Find greatest of three numbers (using ternary operator).

```
#include<stdio.h>

int main()

{

   int a,b,c,big;

   printf("Enter three numbers : ") ;

 scanf("%d %d %d", &a, &b, &c) ;


big = (a > b) ? ((a > c) ? a: c):((b > c) ? b:c);


printf("\nThe biggest number is : %d\n", big) ;

   return 0;

}
```

Output: